

I. Background

The Harford County Recycling Plan established an aggressive recycling program designed to comply with the requirements of the Maryland Recycling Act (MRA), to protect our environment, conserve and preserve our natural resources, and save energy.

In 1988, in an effort to address the State's diminishing landfill capacity the State of Maryland enacted the MRA. This law required each county with a population greater than 150,000 to adopt a plan to reduce its solid waste stream by 20 percent through recycling, with the plan to be fully implemented by no later than January 1, 1994.

Each Maryland county was to have a plan approved by the State by January 1, 1992; report annually to the State; and show that it had attained the goal of 20 percent by January 1, 1994. Each subsequent annual report to the State includes the total amount of solid waste disposed and the amounts and types of solid waste recycled; methods of waste reduction other than recycling; and the waste reduction percentage (1% to 5%) actually achieved. The MRA and subsequent guidelines distinguished those waste streams that were "eligible." Construction and demolition debris, for example, is not an eligible waste stream for this annual reporting.

An essential component to the success of Harford County's Recycling Plan comes as a result of the ban imposed in 1992 on landfilling or incinerating yard trim from residential and commercial generators. The ban prohibits yard trim (leaves, grass clippings, branches, trimmings, stalks, and Christmas trees) found in the municipal solid waste stream from being collected with trash. Where collection by a private hauler is unavailable or too expensive, drop-off sites have been established in Bel Air and at the Harford Waste Disposal Center (HWDC) for the convenience of county residents.

1. Market Development

Market Development in recycling is a complex process that calls for the careful integration of government, the public and private industry across a well-developed set of policies and programs. Market development depends upon a reliable, high-volume, high-quality stream of secondary raw materials and can only succeed if consumers purchase the finished goods that contain recycled content, closing the loop.

A classic example of closing the recycling loop in Harford County is the making of Clorox Bleach bottles in Perryman. Clorox Products Manufacturing Company purchases over five million pounds of recycled plastic (HDPC pellets) every year. The recycled HDPE is made into the inner lining of Clorox's famous white bleach bottle.

II. Current Status

Harford County celebrated fourteen (14) years of curbside recycling with a recycling rate of 65 percent (61 percent recycling plus four (4) percent source reduction credit). Harford County's citizens are pitching in and continuing to increase that percentage.

The Maryland Department of the Environment (MDE) previously presented Harford County with an Outstanding Waste Diversion Award.

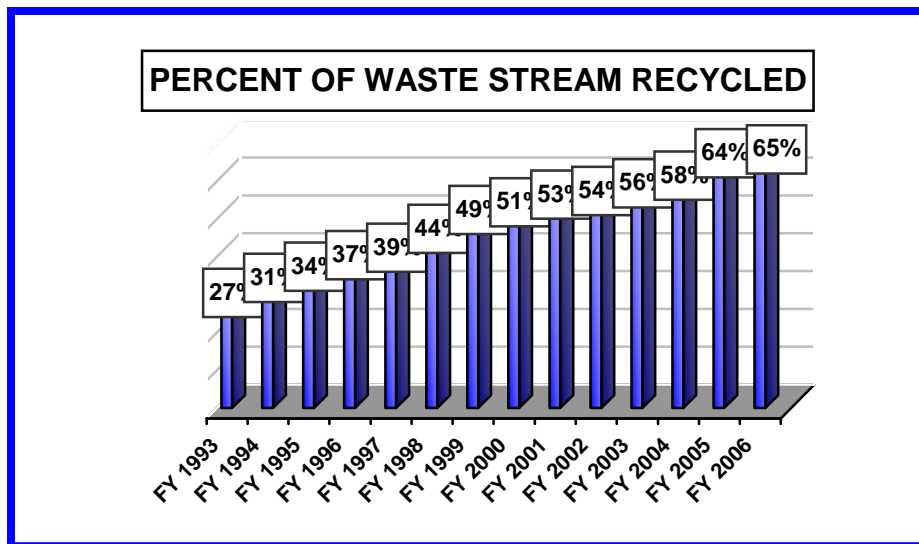
Recently released figures for 2005 from MDE indicate Harford County sent 180,479 tons of recyclables to market and earned four source reduction credits which translate to 65 percent of the county's waste stream being diverted, which conserves landfill space saved.

III. Waste Reduction

Waste reduction, or source reduction, activities focus on preventing the generation of solid waste, generally by decreasing the volume of materials produced and consumed. Very simply, waste that is not generated will not enter the waste stream. The Office of Recycling continues education and outreach programs in waste reduction through advertising, brochures, and presentations.

MDE has developed a uniform report to be submitted annually giving counties the opportunity to earn an additional one (1) to five (5)-percentage point(s) for source reduction. These points are then added to the overall recycling rate.

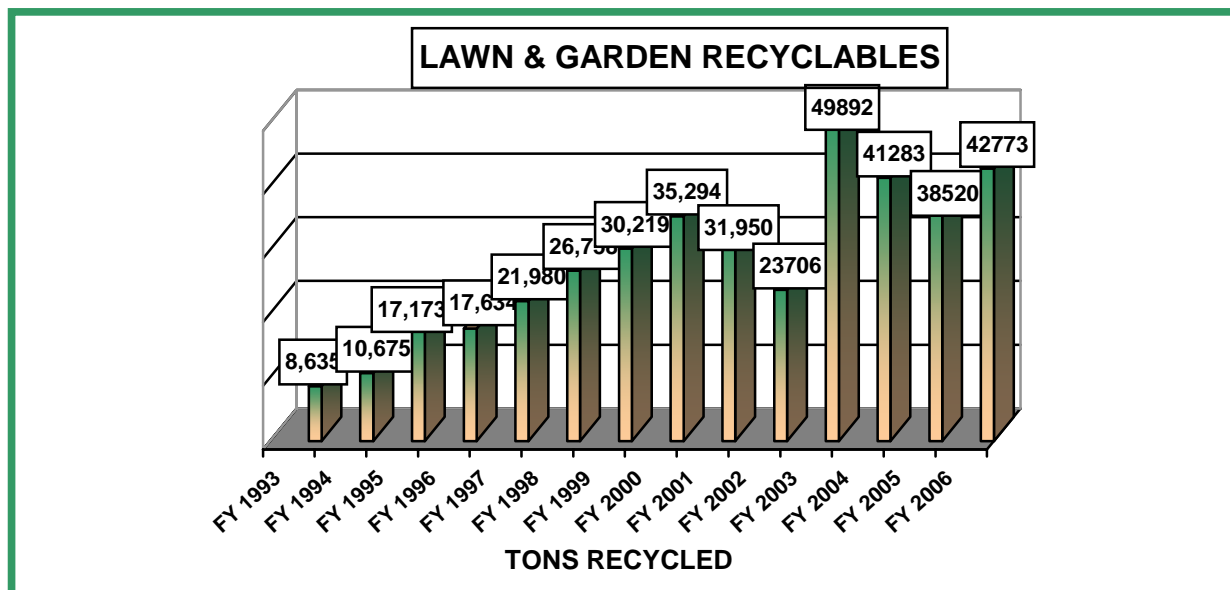
As set forth in the Harford County Recycling Plan, adopted by the County Council on February 4, 1992, and approved by the State of Maryland on June 1, 1992, the public must understand the reasons their participation is important. Public education and outreach that go beyond the specifics of how and why to recycle will contribute to new purchasing practices and reduced waste generation. This effort will also better serve the public and the environment, and not simply enhance the numerical goal of the Plan.



IV. Recycling Programs

1. Lawn and Garden Recyclables (Yard Trimmings)

Lawn and Garden Recyclables (Yard Trimmings) are defined as leaves, grass clippings and woody wastes (branches, trimmings, stalks, Christmas trees, and roots) found in the municipal solid waste stream. The EPA estimates that yard trimmings constitute approximately 18 percent of the national municipal solid waste flow. Recovery of yard trimmings by processing into compost and/or mulch is an intricate component of Harford County's integrated solid waste management program.



In 1992, Harford County imposed a ban on the landfilling or incineration of yard trimmings from residential and commercial generators. The ban prohibits yard trimmings from being collected with trash. As a result, separate yard trimmings collection by the private haulers is necessary. Where collection by a private hauler is unavailable or too expensive, drop-off sites have been set up in Bel Air and at the HWDC for the convenience of county residents.

The HWDC has an eleven (11) acre paved Composting Facility that processes an average 822 tons of materials weekly or 42,773 tons a year.

Composting is the biological decomposition of organic materials under aerobic conditions to a level of stability suitable for its intended use.

Woody yard waste can be recycled into mulch, compost, or a combination of the two. Because of the high carbon content, woody wastes are slow to decompose. Generally this waste is not considered suitable for large-scale composting and is more commonly processed as mulch.

Through State approved mulching and composting processing, mulch and compost are made available to Harford County residents. Residents may self-load three 30-gallon bags or cans of nutrient-rich mulch or compost at the HWDC free of charge. Larger quantities can be obtained for a small fee.

2. Backyard Composting

Backyard Composting is the most practical and convenient way for homeowners to handle lawn and garden materials. It is easier and cheaper than bagging and transporting these materials to a drop-off site.

The Office of Recycling has conducted backyard-composting workshops in cooperation with the Master Gardeners and the Cooperative Extension Office. Brochures and a video are available to the public.

3. GrassCycling

GrassCycling is a term coined by the Professional Lawn Care Association of America to describe the natural process of recycling grass clippings rather than collecting and bagging them for disposal. Grass clippings consist of 80 percent water. Leaving grass clippings on

the lawn when mowing returns the remaining 20 percent nitrogen content to the soil. The nitrogen fertilizes the root system for healthier, more prosperous grass plants.

Educational campaigns in April by the Office of Recycling coincide with National Lawn Care Month and include advertising, brochures and workshops that educate the public on the many benefits of GrassCycling.

4. Christmas Tree Recycling

Christmas Tree Recycling turned sixteen (16) years old in 2006. Since the ban on landfilling or incinerating yard trimmings in June 1992, a yearly average of 25,000 Christmas trees have been turned in for recycling.

Christmas trees are accepted at the Tollgate Road Yard Trim Drop Off Site and at the Composting Facility at the HWDC. The trees are ground into mulch and, after proper maturing, made available to Harford County residents.

5. Scrap Metal Recycling

Scrap Metal or White Goods Recycling dates to the earliest days of iron making. Scrap use began in North America in 1642 when the first iron furnace was built in Massachusetts.

Scrap metal should be included in any recycling program. Ferrous metals are magnetic and, therefore, easily removed from the waste stream.

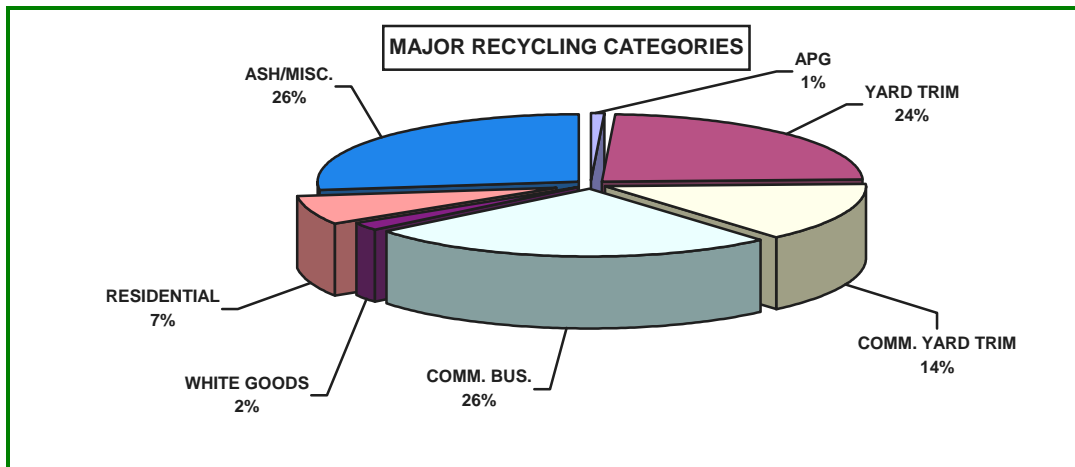
Harford County has operated a scrap metal recycling program for sixteen (16) years, collecting and marketing more than 35,000 tons of metal. Significant amounts of steel are contained in large appliances such as refrigerators, freezers, washers, dryers, water heaters, stoves, and furnaces. Items containing at least 80 percent metal (bicycles, lawn mowers, barbecue grills, etc.) are also accepted. County residents may deliver scrap metal goods to the HWDC free of charge.

6. Litter Control and Adopt-a-Road

Litter Control and Adopt-a-Road programs are administered through the HWDC.

The Adopt-a-Road program is fashioned after the State's program enlisting volunteers to adopt 1- to 2-mile sections of the County's roads and to pick up litter and recyclables approximately four times a year.

Litter Control personnel cleaned over 1,130 road miles and collected 202,406 pounds of solid waste of which 30,729 pounds were recycled in 2006.



7. Household Hazardous Waste

Household Hazardous Wastes (HHW) are those wastes resulting from products purchased by the public for household use which, because of their quantity, concentration, physical, chemical or infectious characteristics may pose a hazard to human health or the environment when improperly disposed. '

In November 2002, the Office of Recycling and the County's Local Emergency Planning Committee (LEPC) sponsored the first household hazardous waste collection day at the HWDC. 4,000 pounds of residential hazardous waste were collected on that day. Since the first event in 2002, the Recycling Office has worked in cooperation with the LEPC and has held annual events and plans to continue this once-a-year program.

The following household hazardous wastes are accepted on an ongoing basis at the HWDC:

- a) **Lead-Acid Batteries.** The largest component of batteries by weight is discarded automobile batteries. The traditional lead-acid battery can pose an environmental threat due to its lead content when disposed with municipal solid waste. Lead-acid batteries are accepted for recycling at the HWDC. Additionally, most automotive retailers will accept old batteries for recycling.
- b) **Motor Oil and Antifreeze.** Used motor oil and antifreeze are accepted at numerous locations throughout the County including the HWDC. Harford County ranks second among the state's jurisdictions for the amount of antifreeze and motor oil collected.
- c) **Latex Paint.** As the largest component of most household hazardous waste streams, latex paint is a major target for recycling. Potential benefits include cost savings, material recovery, and diversion from landfill disposal. Latex (water-based) paint recycling is a common practice. Over the past eleven (11) years, the Office of Recycling has conducted Latex Paint Recycling collection events twice yearly (Spring and Fall) diverting more than 10,000 gallons of usable latex paint from the waste stream.
- d) **Empty Pesticide Containers.** In cooperation with the Maryland Department of Agriculture (MDA), the Office of Recycling offers the farming community an environmentally sound method of recycling/disposing of pesticide containers. The program offers one drop-off date per month from June to September. Representatives from MDA inspect the containers to verify the triple-rinse cleansing method. Over this ten (10)-year program, more than 14,405 containers have been accepted for recycling. In 2006, 871 containers were accepted.
- e) **Gasoline/Oil Mixture.** Used gasoline/oil mixtures, commonly used in outboard motors and some lawn equipment, are accepted at the HWDC.
- f) **Electronics Recycling.** During 2003, one (1) Recycling event took place. In that event, nearly 34 tons of old televisions and computers were dropped off for recycling. Computers are a rapidly growing part of the waste stream. It is estimated that over 300 million personal computers have become obsolete nationwide. The County now accepts computers and all computer peripherals at the HWDC.

8. Textiles

Textile Recycling, which includes clean and dry clothing, hats, drapes, curtains, belts, handbags, towels, sheets, blankets, and paired shoes, became a permanent program at the HWDC after its debut in 2000. Textile recycling provides clothing for less fortunate individuals and industrial shop rags from the remnants. Items that are excluded are wet textiles, carpets, pillows, or any plastic materials. A trailer is in place at the HWDC to accept clothing and textile items. A full trailer holds up to 6 tons of textiles.

V. Buy Recycled

Successful recycling is a full-circle, three-step process. It begins with **collection** and separation of recyclable materials. The materials are then **remanufactured** into new products. Finally, the recycled products are **returned** to the marketplace as new consumer goods.

Recycling is a market-driven industry. If the demand exists for products made from recycled materials, manufacturers will make them. The marketplace potential for recycled goods is expanding. More products made from recycled material are available. Educating the consumer is important to overcome any negative consumer perceptions and to change the buying habits of consumers.

As a consumer group, government agencies represent a significant force. Their purchases amount to twenty (20) percent of the Gross National Product. Additionally, government purchasing practices can have widespread influence on the private sector. Harford County Government remains committed to buying recycled and can provide leadership by example and encourage private sector use of government standards and specifications.

VI. Public Education and Outreach

Recycling represents an essential part of Harford County's waste management system. Recycling, along with waste reduction, landfilling, incineration with energy recovery, and composting, allows us to take maximum advantage of limited disposal capacity while reducing pollution and conserving natural resources and energy.

Prior to the curbside recycling program, Harford County generated more than 109,500 tons of municipal solid waste per year. That equates to nearly four pounds per person per day. Through extensive

and ongoing public education and awareness, Harford County residents recognize the problems associated with municipal solid waste and are responding by separating many types of materials for recycling.

Of course, separating and collecting recyclable materials is just the beginning. Recycling is not complete until the materials have been reprocessed, marketed, and reused. Nonetheless, progress has been substantial in Harford County over the last fourteen (14) years as the comprehensive countywide recycling program continues to improve. As an example, in 1991, residents diverted five (5) percent of the waste stream through recycling and composting. In calendar year 2006, 65 percent was diverted through recycling, source reduction and composting.

While County Government, local industry and private organizations have all contributed to the increasing success of recycling and composting, the credit truly goes to the residents of Harford County who have embraced the recycling program. The evidence is not only in the increased recycling tonnages, but also evident in the changing of habits from using throwaway items to using reusable/recyclable items, and resistance to over-packaged products, and daily changes in attitudes and genuine concerns for the consequences of their actions.

In addition, Harford County public schools include recycling in all fourth grade science curriculums.

Through continued public education and outreach, adults and children will readily change wasteful consumption and purchasing habits and also begin or continue recycling at home.

VII. Commercial Recycling

The commercial waste stream accounts for a significant portion of the county's waste disposal. It is therefore imperative that commercial generators be aware of existing and planned recycling opportunities and the resulting benefits.

The greatest portion of the commercial waste stream consists of corrugated cardboard. The Waste to Energy Facility and the Office of Recycling have joined efforts to retrieve and recycle large quantities of cardboard observed during the tipping of commercial loads at the Facility and to identify companies disposing of significant amounts of recyclable materials.

VIII. Independent Initiatives

1. Aberdeen Proving Ground

Aberdeen Proving Ground currently contracts with a private trash hauler for the collection of trash and recyclables from their residents on Post. The recyclables collected are the same as those collected throughout the county.

2. Municipalities

The ***Town of Bel Air*** operates its own trash collection fleet. The Town is split into two districts with curbside recycling picked up on Thursdays and Fridays. Recyclables are delivered to the county's transfer station. Bel Air's recycling program mirrors the county's curbside guidelines.

The ***City of Aberdeen*** now provides collection of trash and recycling through their public works department and with their own fleet of trash trucks. Residents are offered a financial incentive to recycle. Stickers must be purchased and attached to trash bags. Prices are based on the size of trash bag used. No stickers are required on the recycling bins (provided by the City).

The ***City of Havre de Grace*** contracts with a private trash hauler to provide trash and recycling collection to its residents. The city's recycling program follows the county's guidelines. Collection of bulk items and yard waste can be arranged through City Hall. Revenues received from residential water bills offset the cost of collection of recyclables.

3. Metal Recycling Resources

Always Recycling at 1353A Old Post Road, Havre de Grace, 410-939-9201, buys back copper, brass, aluminum, stainless steel and aluminum cans.

Green Marble Recycling at 1646 Main Street, Cardiff, 410-452-8945, buys back aluminum cans, aluminum scrap, copper, brass and stainless steel. Last year, several boxes of sorted metal from the HWDC scrap metal recycling drop off area were sold at Green Marble.

Maryland Recycle, Inc. at 343 Granary Road, Forest Hill, 410-836-0070, buys back copper, brass, aluminum, stainless steel and aluminum cans.